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Railway Age

...for the new age of railways and rail transit

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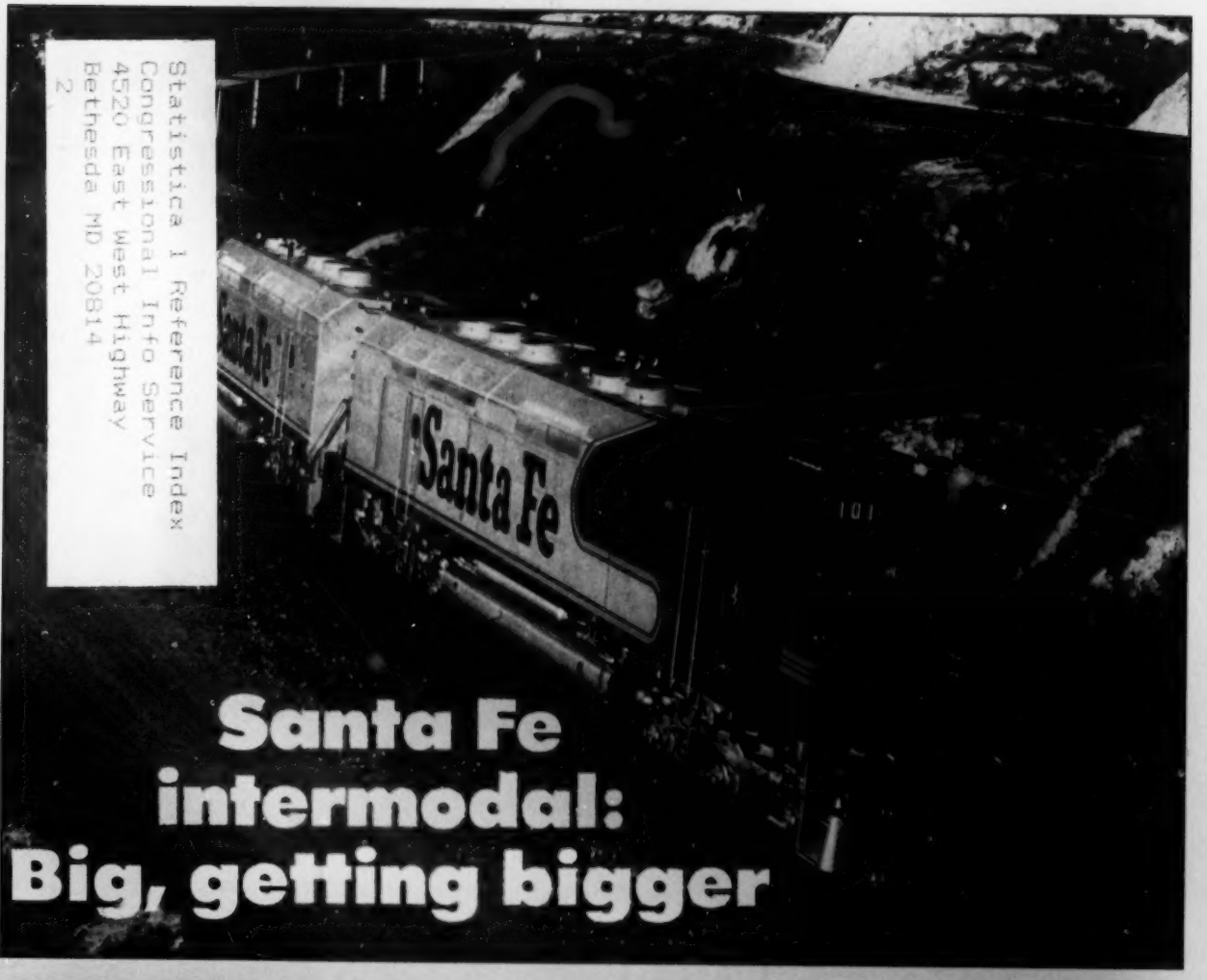

Santa Fe intermodal: Big, getting bigger

Paducah & Louisville: A regional winner

CP's aim: "On Time, All the Time"

California in transit: Light and rapid rail

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Features

27 Santa Fe intermodal: Big—and getting bigger

Already producing 40% of revenues, ATSF intermodal business continues to grow. President Mike Haverty discusses this and other growth areas, including VCAs, in an interview with *Railway Age*.

33 Grade crossing needs escalate

Active warning systems, surfaces, and related improvements account for about half of the $853 million a year DOT says needs to be invested in crossings.

37 CP's aim: "On Time All the Time"

OTAT is just one CP Rail program for stopping erosion of traffic to trucks. CATS (Customer Action Team for Service) is also in there fighting.

40 Paducah & Louisville: The making of a winner

Low start-up costs; shrewd investments in track, computers, and cars; profits plowed back into the business—all are part of the P&L success story.

46 VIA Rail's cuts stun Canada

A firestorm of protests is raging in the wake of the federal government's decision to eliminate half of VIA's trains and a third of its work force.

51 Rail planners keep busy in California

From San Diego to Sacramento, rail transit has become a growth industry. Planning is now under way for construction stretching well into the 21st Century.

Comment

6 Inside
13 Watching Washington
14 Lines on Labor
15 Equipment Financial Trends
66 Perspective

Departments

9 Industry Outlook
10 Market Outlook
13 Advertising Sales
49 Letters
57 People in the News
59 Products
60 New Literature
64 Advertisers Index
65 Meetings
65 100 Years Ago

Update

16 Railroads ride out tempest and quake
16 FRA issues rule on safety violations
17 UP simplifies L&D procedures
17 SST system cuts RoadRailer cost
19 ICC clears the way for Blackstone-CNW
19 Carmichael sees growing rail role
19 GE Railcar buying car parts company
19 SP, Soo inaugurate new stack service
20 Fiber optics system completed by SPT
20 Quality Bearing adds California plant
20 Two short lines adding new mileage
21 New company builds concrete switch ties
21 Millionth container moves through ICTF
21 Conrail program reduces injuries
21 Boxcar rates for truckload shippers
21 RSLA picks Loftus to succeed Croft
22 Bombardier extends its reach in Europe
22 Miami will extend Metromover system

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INSIDE

"Stop beating up on each other"

LUTHER S. MILLER

What must railroads do not only to stay alive but to thrive in a fiercely competitive transportation world that sometimes seems hopelessly tilted toward trucks?

Improve service...reduce costs...forge labor-management partnerships, embrace state-of-the-art-technology: These are some of the answers that come readily, almost ritualistically, to mind.

Santa Fe President Mike Haverty probably would have no quarrel with any of the above—Santa Fe has been aggressively innovative in all of those areas. Indeed, it is a combination of these things that has helped Santa Fe this year reduce its operating ratio from 90.2% to 86.8%, and to post third quarter operating income of $73 million, making this its best quarter in five years.

But it was not one of these answers that leapt to Mr. Haverty's lips when *Railway Age* Senior Editor Gus Welty recently asked him what railroads need to do to succeed. What he said, instead, was this:

"Railroads have to stop beating up on each other for a slice of the transportation pie that keeps getting smaller. I'm a guy who doesn't think this has been very smart, with railroads cutting rates against each other...and sometimes then cutting services [with] truckers skimming off the high-rated traffic."

Mr. Haverty, in an interview that is this issue's cover story (p. 27), had some highly specific suggestions as to how railroads can work with, rather than against, each other to build traffic.

One of these, he said, is the VCA (voluntary coordination agreement). He noted that Santa Fe already has a VCA with Burlington Northern that "has allowed us to go into the Southeast and allowed BN to go into the Southwest with what is basically a single-line service"—an example, he said, "of how you can reach out and expand your markets, short of a merger."

And he would go beyond the VCA, if necessary, to win highway traffic:

"I've made it clear that where there are opportunities to go out after truck traffic, we're willing to work with any railroad. We're also talking about situations where two railroads have parallel main lines and both roads could use the same line. This would make use of excess capacity and it would reduce expenses for both companies. It makes sense to me that if you're really going to go after truck traffic, you have to reduce expenses while you maintain or improve service."

High-quality intermodal service is the most direct way to siphon traffic from the highways, and it is here that Santa Fe has compiled an uncommonly impressive record, due partly to circumstance. As Mr. Haverty observed: "We are not blessed with a tremendous amount of coal traffic. Grain is good..but those markets fluctuate. We are not a railroad with a tremendous amount of industry located on line. So if we are going to grow, a big part of that growth has to be in intermodal." Today, he said, intermodal is providing "about 40% of our revenues and it's only a matter of time—probably not much time—before intermodal accounts for more than half of our freight revenues."

Clearly, if there's a mode of transportation that Mike Haverty wants to beat up on, it's not his own.

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Equipment

Burlington Northern: Placed an order with Union Switch & Signal for 25 AVI (automatic vehicle identification) systems based on technology developed by Amtech (*RA*, Oct., p. 37). The order calls for 25 US&S Shadow controllers, 4,000 associated tags, and nine programmers for use with locomotives, end of train devices, cabooses, air repeater cars, and fuel tender cars. BN is expected to order another 26 readers in 1990.

Itel Rail: Placed an order with Gulf Railcar of Houston for 150 new, 23,500-gallon, exterior-coiled and insulated tank cars.

Metropolitan Dade County: Will build two extensions totaling more than 2.5 miles to the Miami Peoplemover system. AEG Westinghouse Transportation Systems will supply 15 vehicles (with an option for two additional vehicles) and other components under a $54 million contract. The county will design and construct the guideway and a total of 12 new stations. (Details p. 22).

Norfolk Southern: Ordered an additional 1,000 open-top hopper cars from Trinity Industries for delivery beginning in first quarter 1990. The railroad earlier placed orders with Trinity for 1,400 open tops for coal haulage; they are now being delivered.

NJ Transit: Now has 15 ALP-44 electric locomotives on order from ABB Traction at a cost of more than $61 million. NJ Transit recently added six units to its original order for nine. The first locomotive, which is nearing completion in Vasteras, Sweden, is to go into revenue service in February 1990. All of the remaining units will be delivered by December 1990. The ALP-44 locomotive is based on the AEM-7 units in service on SEPTA, MARC, and Amtrak between Washington and New York.

Facilities

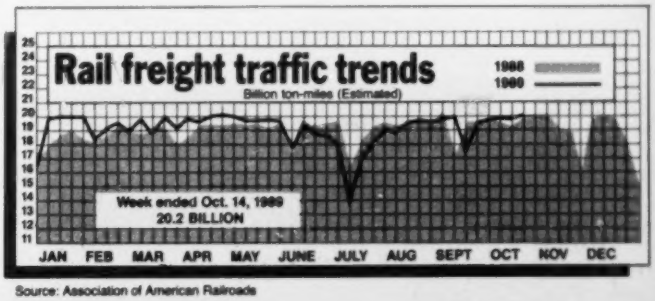
Grand Trunk Western: Ordered a Modular Locomotive Simulator from DSL Dynamic Sciences Limited. The simulator will be installed in a trailer. DSL's standard Modular Simulator system comprises a base package and a series of modules which can be ordered with the base package or added at a later date.

Revenue freight carloadings

Commodity	Oct. 14 week	Oct. 7 week	Sept. 30 week	Sept. 23 week
Grain	29,439	26,775	25,837	24,522
Other farm products	2,889	2,468	1,963	1,600
Metallic ores	17,353	16,267	17,625	19,967
Coal	134,432	132,344	135,130	132,352
Crushed stone, gravel and sand	18,460	18,040	17,277	17,580
Nonmetallic minerals	10,404	10,417	9,935	11,866
Grain mill products	9,686	10,052	10,098	10,005
Food and kindred products	8,837	8,826	8,750	8,756
Primary forest products	9,334	8,956	9,237	9,399
Lumber and wood products	6,093	6,114	7,258	6,731
Pulp, paper and allied products	10,292	10,284	10,317	9,946
Chemicals and allied products	27,450	27,906	27,669	27,472
Petroleum products	5,430	5,236	5,553	5,095
Stone, clay and glass products	11,457	11,001	11,178	11,213
Coke	5,485	5,626	5,677	5,772
Metals and products	9,209	9,741	9,599	9,444
Motor vehicles and equipment	18,275	18,004	19,537	19,453
Waste and scrap materials	8,721	8,045	8,802	8,860
All other carloads	7,609	7,270	7,170	8,803
Total Cars Loaded	**351,855**	**343,374**	**348,812**	**348,837**
% change from previous year	(1.4)	(3.1)	(4.3)	(3.1)
			% change	
Cumulative total: 41 weeks		13,673,962	(1.4)	
Estimated revenue ton-miles (billions)	20.2	19.8	19.9	19.8
% change from previous year	.5	(2.0)	(2.9)	(2.5)
Total:		1989	1988	% change
41 weeks		785.3	786.7	(.1)

Intermodal traffic

	Oct. 14	Oct. 7	Sept. 30	Sept. 23
Trailers	71,732	76,726	75,658	72,636
Containers	53,343	53,271	51,300	50,735
Total	**125,075**	**129,997**	**126,958**	**123,371**
% change from previous year	5.0	6.2	(.7)	1.8
			% change	
Cumulative total: 41 weeks		4,668,822	3.1	


Rail freight traffic trends
Billion ton-miles (Estimated)
1988
1989
Week ended Oct. 14, 1989
20.2 BILLION
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Source: Association of American Railroads

Freight cars

	DELIVERED 3rd quarter 1989	DELIVERED 3rd quarter 1988	ORDERED 3rd quarter 1989	ORDERED 3rd quarter 1988	ON ORDER AND UNDELIVERED Oct. 1 1989	ON ORDER AND UNDELIVERED Oct. 1 1988
Built new by carbuilders	6,821	5,605	6,117	4,487	15,894	16,107
Built new in RR shops	0	0	0	0	0	0
Built new—Total	6,821	5,605	6,117	4,487	15,894	16,107
Rebuilt	0	35	0	0	0	176
TOTAL	**6,821**	**5,640**	**6,117**	**4,487**	**15,894**	**16,283**
Locomotives (new and rebuilt)	N/A	N/A	N/A	N/A	N/A	N/A

Source: Transportation Div., AAR and American Railway Car Institute

Crossing safety—Part II

Funding needs escalate

A DOT study says grade crossing needs will rise to $853 million a year, including $428 million to replace, improve, and maintain warning systems and surfaces. But who will pay?

By LUTHER S. MILLER, Editor

In 1974, 1,128 lives were lost in accidents at highway-railroad grade crossings. In 1988, despite a 37% increase in the exposure index, there were only 689 fatalities, a drop of around 40%. (The exposure index is derived from a formula involving total train miles and total vehicle miles traveled. During the 1974-1988 period, train miles decreased by 11%, but vehicle miles rose by 55%.)

This dramatic improvement in crossing safety began at about the time the federal government started to invest heavily in grade crossing warning devices and surfaces through a special program—Section 130 (203)—which Congress created in 1973.

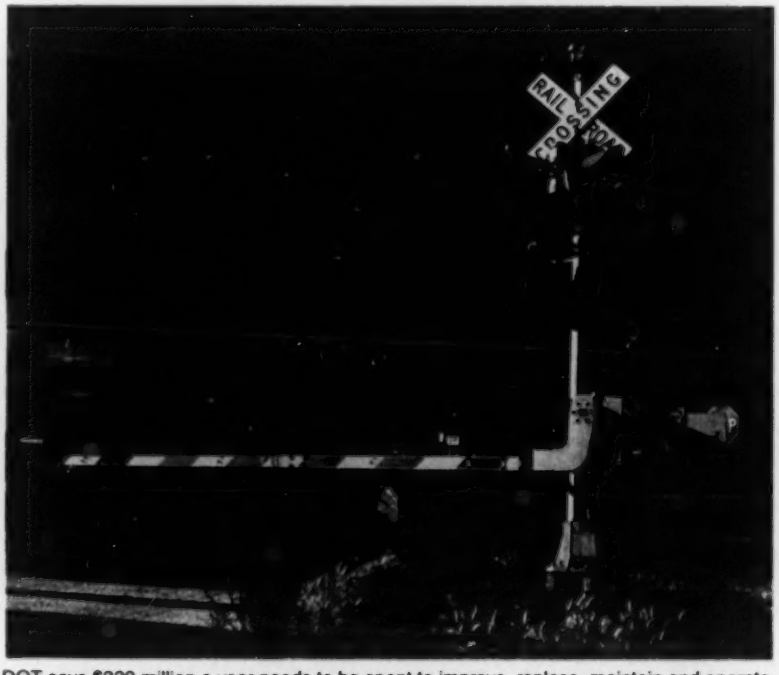
The Section 130 (203) money dedicated to crossing safety comes from the Highway Trust Fund. It has averaged around $170 million a year, about one-fourth of the total of $670 million that is invested annually in grade crossings. But it's an important fourth: It is this money that has paid for most of the warning systems and improved surfaces that the Federal Highway Administration estimates have saved nearly 5,000 lives and prevented 20,000 injuries since the program was enacted.

But the grade crossing safety battle is far from over. Although the long-term improvement is evident when viewed in the context of the steadily rising exposure index, actual fatalities have recently been going up again—from 507 in 1986, to 533 in 1987, and 689 in 1988.

It was the soaring fatality rate in the early '70s that prompted Congress to order the U.S. Department of Transportation to conduct a study of crossing safety needs. Out of that study came the report that led to the Section 130 (203) program.

Now the U.S. DOT has completed a new crossing safety report, also mandated by Congress. It says that total investment in crossings needs to rise over the next 15 years to an average of $853 million a year.

Railroad people involved in crossing safety welcome the report's conclusions, although some are disappointed that the study fails specifically to recommend a renewal of the Section 130 (203) funding, which they regard as the linchpin that holds the crossing safety program together. (See Crossing safety, Part I, *RA*, Oct., p. 47.)



DOT says $320 million a year needs to be spent to improve, replace, maintain and operate active warning systems like this one. Edward Delvers

• The story so far. In 1985-1987, the DOT study shows, an average of over $669.5 million was spent annually on public rail-highway crossings—$149.5 million for maintenance and operations (of which the railroads paid $133.1 million, even though both the courts and the ICC have held that crossing safety is a highway, not a rail, responsibility); $268.7 million for structures, mostly separation projects dictated more by highway needs than safety; $155.6 million for active warning devices (of which federal funds paid $106.7 million); and $90.5 million designated as "other," about three-fourths of which represents expenditures for crossing surfaces, which again were principally funded by the Section 130 (203) program.

The role of active warning devices in improving safety was underscored by the Federal Highway Administration in its 1989 Annual Report on Highway Safety Improvement Programs. Commenting on the reduced crossing accident rate that marked the 1974-1987 period, the FHWA report observed: "For new flashing lights, there was a 77% reduction in fatal plus injury accident rates. For new flashing lights and gates, the reduction was 86%; for new gates only, it was 80%."

The importance of smooth crossing surfaces is underscored in the DOT report, which notes that crossings create a discontinuity in the normal highway surface which "may create a hazardous situation for motorists."

Not surprisingly, both warning systems and improved surfaces continue to be high on the list of priorities which the DOT has established in recommending an increase in total crossing expenditures to $853 million a year through the year 2005.

• DOT writes a new chapter. In the DOT spending scenario, about $320 million a year would be earmarked for warning systems (including $185 million for improvements and replacements, $30 million

for new systems to improve the safety record, and $105 million for operation and maintenance); $425 million for structures ($390 million for improvements and $35 million for operation and maintenance); and $108 million for such other needs as surfaces and realignment ($73 million for improvements, $35 million for operation and maintenance). Thus, the new study sees a need for $648 million a year for crossing improvements and $205 million to maintain and operate crossings.

The $185 million to replace and improve warning systems breaks down this way: "Using a reasonable schedule of at least 2,200 replacements each year," says the DOT report, "replacement of obsolete active warning devices by 2005 with standard devices will cost approximately $88 million a year." Another $26 million a year will be required to replace crossbucks and other passive warning devices, for a total of $114 million a year just to maintain minimum safety standards. Still another $71 million will be needed to incorporate state-of-the-art equipment when replacing the 2,200 older devices ($53 million) and to install modern train detection systems ($18 million). To further reduce accidents, by approximately 15-20% by the year 2005, could cost still another $30 million annually, a program "that would concentrate on improved warning systems."

As for crossing surfaces, DOT sees an annual need of around $73 million for improvements. It will cost $23 million for replacement-in-kind of deteriorated surfaces. If these are at the same time modernized, the additional cost will be $22 million. Relocation and closure alternatives could cost $18 million, with another $10 million going for realignment of surfaces required when rail and highway facilities are improved.

In the structures area, DOT says $390 million a year needs to be spent on improvements necessary to maintain adequate traffic services for both highways and railroads. Routine maintenance will cost $35 million a year, for a total of $425 million. The DOT study notes: "The current National Bridge Inventory identifies a total of 15,800 highway structures over a railroad only, and another 7,200 highway structures over a combination of features, including a railroad. Of the 15,800 structures, 6,900 are currently identified as structurally deficient or functionally obsolete."

The DOT study repeatedly stresses the key role of warning systems in improving crossing safety, although more money is invested in separations:

"Warning systems respond the most effectively to safety concerns, separation structures are more effective in maintaining and improving mobility. It could be said that 38% of the crossing needs are safety oriented, 50% are mobility oriented."

● **Safety first?** Separation structure improvements are funded by several federal-aid programs; but most of the safety related work is funded by Section 130 (203), and it is the fate of this program, whose current authorization expires in 1991, that has some railroad people worried. They are concerned not only about its renewal, but in what form it might be renewed. There is some fear, for example, that the current 90% federal-10% local match formula might be revised to require a higher local share (which could mean higher costs for railroads); or that states might be given even more discretionary authority than they now have over the expenditure of this "dedicated" money—in which case, railroaders believe, much of it would be dedicated to other than crossing safety needs.

The DOT study leaves the question of funding to be resolved by the architects of a new National Transportation Policy.

DOT has often said, in effect, that safety is its most important product. Time will tell. ■

Grade crossing outlays, past and projected

Expenditures at public rail-highway crossings

1985-87 Average
(Thousands of dollars)

Function	Source of Funding: Federal	State/Local	Railroad	Total
Maintenance and Operations	—	16,400	133,100	149,500
Improvements at:				
Passive Crossings	3,900	1,200	100	5,200
Active Crossings	106,700	30,700	18,200	155,600
Structures	136,400	115,700	16,600	268,700
Other	50,700	20,000	19,800	90,500
Total	**297,700**	**184,000**	**187,800**	**669,500**

Source: U.S. DOT

Estimated annual needs for public rail-highway crossings through the year 2005

(Millions of dollars)

Category of Needs	Major Activity Area: Warning Systems	Structures	Other	Total
Minimum Safety Standards and Replacement	114	80	23	217
Maintain Adequate Safety and Traffic Services	71	310	50	431
Subtotal, Improvement	185	390	73	648
Operation and Maintenance	105	35	35	175
Accident Reduction	30	—	—	30
Total	**320**	**425**	**108**	**853**

Source: U.S. DOT